

## ABSTRACT

**Title:** The Impact of Alcohol Consumption on Gross and Fine Motor Skills of Individuals

**Objectives of the thesis:** The main objective of my thesis is to assess an immediate effect of alcohol on selected tasks from the area of fine and gross motor skills. First identified were the average values for selected tests in sober individuals, and then the values with an increasing level of alcohol in blood. The second objective is to differentiate whether or not are fine and gross motor skills affected upon the same alcohol level in blood.

**Methods:** The required data were obtained on the basis of experimental measurements on 12 probands (6 women and 6 men) who were tested for fine motor skills using three non-standardized tests modified or created for the purpose of this experiment: threading beads on a string, unlocking locks and dropping coins to a moneybox. Gross motor skills were tested using stabilometric platform in a standing position with legs together and with open eyes for 30 seconds. The observed parameter in the fine motor skills test was the time, while in the stability test it was the track of COP; each fine motor skills test was performed three times in each round. In the second and in each subsequent round every proband was administered 0.3 g of alcohol per kg of weight. The total number of rounds was six. Approximate values of alcohol in blood were measured continuously by Dräger Alcotest 7510.

**Results:** Both fine and gross motor skills were to a certain extent affected already after the first dose of alcohol, i.e. upon an average 0.22 ‰ level of alcohol in blood. In the event of fine motor skills test the impact in the majority of cases was positive (reduction of time necessary for task performance), while in the event of stability tests the majority of probands were affected negatively (extension of COP track). In the course of the experiment an average level of alcohol in blood in men and women was almost identical, and no intersexual differences have been proved between the level of alcohol in blood and the impact on fine as well as gross motor skills.

**Key words:** alcohol, ethanol, fine motor skills, gross motor skills, balance, stability